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Abstract

A chemical deposition reactor capable of switching rapidly from one process gas to another and method of forming a thin film using the same. The reactor of the present invention comprises: a reactor cover, having an inlet and an outlet, for keeping reactant gases from other part of the reactor where the pressure is lower than inside of the reactor; a gas flow control plate, fixed onto the reactor cover, for controlling the gas flow through inlet and outlet by the spacing between itself and the reactor cover; and a substrate supporting plate for confining a reaction cell with the reactor cover. The method of the present invention can be accomplished using the above reactor. In the method, process gases including a deposition gas, a reactant gas and a purge gas are sequentially and repeatedly supplied in the reactor to form a thin film on a substrate. A RF (Radio Frequency) plasma power is applied to a plasma electrode of the reactor synchronised with the supply of at least one among the process gases.